

## AGRICULTURE IN EAST GIPPSLAND

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Agriculturally, parts of East Gippsland are some of the least developed in Victoria. I refer to the region E. of Lakes Entrance, including the Shire of Orbost and the greater part of the Shire of Tambo, and it is this region I shall discuss.

The total area is around three million acres, of which 690,000 acres or 23 per cent are described as occupied for agricultural purposes. However, this area includes wide Crown leasehold, much of it timbered and used only for extensive grazing purposes. The area privately owned and used for more or less intensive farming is estimated as being about 400,000 acres, or only 13 per cent of the total.

Much of the terrain is rugged and rough, and most of it heavily timbered. There are, however, some quite large areas of Crown Land which could be developed for agricultural purposes, but at high cost. At the same time alternative land use, such as reserves for forestry, flora and fauna, watershed management and so on, should be given full consideration.

Most of the agricultural settlement is found in two main areas: to the W. a substantial area surrounding Buchan and extending northwards into the higher plateau country including Gelantipy and Wulgulmerang; and the second large area comprising the river flats, coastal plains and adjoining cleared foothills around Orbost.

There are other areas, mainly of river flat and foothill country, scattered from Lakes Entrance to Mallacoota, with a northerly extension along the Cann River, and also more isolated inland settlements at Bendoc, Bonang and along the Deddick River (Tubbut).

Practically all of this country has an average annual rainfall of over 30 inches, except the south west corner near Lakes Entrance and a rain shadow area to the north west, including Wulgulmerang and Tubbut.

### Agricultural Activities

These districts support a wide variety of agricultural activities. Grazing predominates and sheep are run for both wool and meat. Beef cattle are run throughout the settled areas and also to a limited extent on Crown leaseholds. Due to high values prevailing over recent years, fewer cattle are now being 'run in the bush'. But, with the progress in pasture improvement, increasing numbers are run on freehold country and cattle are turned off at much younger ages than was the case 20 years ago.

Dairying is largely concentrated around Orbost and Cann River with scattered farms further afield.

Approximate numbers of the different classes of livestock as at 31 March 1966 were:

Dairy cattle	26,500
Beef cattle	35,500
Sheep & Lambs	166,750

If we use a conversion ratio of 8 to 1, cattle run are equivalent to 248,000 sheep. Thus 40 per cent of the feed goes to sheep and 60 per cent to cattle.

I cannot give figures for the particular area, but for East Gippsland as a whole, stock numbers have increased substantially over the last 20 years—e.g. sheep by 73 per cent, dairy cattle by 45 per cent and beef cattle numbers have almost doubled. This indicates an overall general increase of around 75 per cent.

It is important to realize that this expansion is based almost wholly on pasture improvement and not on the bringing in of new land. Pasture improvement has been going on at an accelerating rate in recent years. It depends on the correct use of fertilizers to overcome soil deficiencies, together with the introduction of more productive species and varieties of grasses and clovers.

#### Soils of the Area

Apart from some very fertile river flat country, e.g. the Snowy River flats at Orbost, most of the soils of the coastal plains and adjoining foothills are of low natural fertility. All are deficient in phosphorus and most of the sandy and gravelly soils show responses to copper and molybdenum. Large areas are at least marginally deficient in copper and this can affect stock health and performance, as well as the growth of pastures.

Most of these soils have low reserves of potassium and after the initial improvement phase has been passed, applications of potash fertilizer are needed to maintain pastures at the highest level of production.

The fertilizer treatment involved is costly but the production of dry matter from a fully improved pasture can be 6 to 10 times that from a native pasture.

Soils of exceptionally low fertility occur on the 'grass tree' (*Xanthorrhoea* spp.) plains which occur quite extensively E. of Marlo. The soil supporting the grass tree association is a strongly acid dark grey sand with much organic matter and with a pronounced organic hard pan at a depth usually between 1 and 2 ft. The 'plains' are usually treeless and have attracted attention because of the assumed low cost of development.

Work carried out in the area showed these soils to have a very high manurial requirement. The following figures indicate the magnitude of the responses obtained on an area cultivated and sown with a pasture mixture in 1953.

TREATMENT	YIELD
No fertilizer	Nil
Superphosphate 5 cwt	3 tons
Super 5 cwt + Agricultural lime 20 cwt	4.9 tons
Super 5 cwt + lime 20 cwt + Muriate of potash 1 cwt	7.8 tons

Fertilizers = cwt per acre; Yields = tons green herbage per acre.

Lime applied broadcast prior to sowing is fundamental to pasture establishment on these soils and adds greatly to the cost. Even when their manurial requirements are fully met pasture growth is limited by bad physical characters. They become water-logged in wet periods and dry out quickly in summer.

Most of the soils in the agriculturally developed inland areas are derived from igneous rocks or limestone deposits. They are of higher fertility, but all respond to phosphate fertilizers and some of the grey basalt soils have shown responses to potassium and molybdenum. However at this stage at least the need to use fertilizers other than superphosphate is unusual.

Of interest is the widespread shortage of sulphur in these inland soils. Sulphur

deficient pastures are typically yellow, and clover growth is restricted. While sulphur requirements are adequately supplied by the normal applications of superphosphate, experiments have shown a very poor response to sulphur-free concentrated phosphate fertilizers. These are now being manufactured in Victoria but our work has shown that they should not be used for topdressing pastures in East Gippsland.

### Summer Crop Zone

The coastal region has long been known as a summer crop zone. This is based on its mild weather, long frost-free period and relatively high summer incidence of rainfall.

However the actual area devoted to crop is quite small compared with the area under pasture and in 1965/66 was only 6,500 acres—about 1 per cent of the total area occupied. The two principal crops are maize and beans, the proportional amounts grown depending mainly on likely financial returns. At present bean acreage is going up and maize down.

Last summer the area of maize was 900 acres and of beans 2,000 including 1,000 acres green beans for processing, 700 acres for seed and 300 for dry culinary beans. The latter are special varieties which are allowed to mature and are harvested dry. They are used for the grocery trade.

The bean crop has been subject to much loss from disease. This is being overcome by a system of certification of seed from disease-free crops and by spraying for disease control.

Demand for green beans for processing—canning and quick freezing—is rising. Improved husbandry methods including chemical weed control, effective disease control and the wider use of irrigation are resulting in much higher yields. Most crops both dry and green are now machine harvested.

The bean crop is certain to become of greater economic importance but the area of suitable land is limited, and agricultural expansion will continue to depend mainly on development of the pastoral industries.

### Future Development

Recent studies have indicated that further doubling of stock numbers on the area already cleared is quite feasible simply by applying present knowledge of pasture improvement methods. I believe first consideration should be given to this method before additional land is cleared.

However further clearing of timbered Crown Lands is certain to proceed and it is important that such development should be done in the most effective and economical way possible.

Experience of Crown Land settlement since the last war has been quite unsatisfactory. Blocks have been allocated to individuals with inadequate knowledge and finance, and the failure rate has been high. Costs are continuing to rise and a high degree of skill and experience is needed for this work.

To investigate costs and methods a pilot farm area of 300 acres of typical medium forest land at Tostaree was developed. The work was directed by a committee representing the Departments of Lands, Agriculture, Forests and Rural Finance and Settlement Commission. Work commenced in 1962 and sowing down to pasture was completed in 1966.

Highly productive pastures were established but the cost was high: around \$150 per acre, made up roughly by clearing and burning \$100, cultivation \$20, seed and fertilizer \$15, water supply and fencing \$15.

Clearing costs could be reduced by large scale operation and the use of larger machinery, but an all-up cost of less than \$120 per acre would be unlikely for similar country.

Adequate finance is therefore needed. The job is no longer one for the simple pioneer, and can be done properly only by a large organization.

Provided land preparation is adequate it cannot be too strongly stressed that correct fertilizer treatment is the key to success. If this treatment is restricted or incorrect the result is an unproductive pasture which soon reverts to fern, tussocks and scrub. This has too often been the result in the past.

If the job cannot be done properly, the land should be left alone until the needed resources are available.

Finally, any further extension of Agriculture in the Region should be approached with scientific detachment.



Conglomerate beds, Woolgulmerang. (*A. W. Howitt, 1876.*)